

Amend the paragraph at page 4, lines 11-22, as follows:

A second critical stage concerns cable installation. The cable is installed at room temperature, which causes additional tensile and bending stresses. Mechanical connections (i.e., locking of cable heads), electric connections, and hydraulic connections (i.e., for liquid nitrogen) are carried out at room temperature. After completing installation, the cable is brought to its working temperature by feeding liquid nitrogen. During such cooling, each cable component is subject to mechanical stresses of thermal origin, differing according to the thermal expansion coefficient of the constituting material and of the characteristics of the other elements.

Amend the paragraph at page 4, line 31 - page 5, line 2, as follows:

To reduce tensile strains, the use of supports has been suggested that are made of a material having an expansion coefficient higher than that of the superconducting material (usually equal to  $10 \times 10^{-6}/K$  -  $20 \times 10^{-6}/K$ ), i.e., on the order of at least  $75 \times 10^{-6}/K$ . Such material would not be a metal, as no known metal has such values, but only a polymeric material such as, for instance, Teflon®, polyethylene, and derivatives thereof.

Amend the paragraph at page 6, lines 9-17, as follows:

In this way, the capability of bearing tensile stresses increases. It has been observed that tensile deformation safely bearable by superconducting materials may be—at best—about 3%.

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This figure takes into account the fact that the superconducting materials already bear a compression deformation of about 1‰ - 1.5‰ because of the different thermal contraction of the superconducting material relative to the metal covering during the tape fabrication stage.

Amend the paragraph at page 7, line 34 - page 8, line 4, as follows:

Further characteristics and advantages of a cable and a process according to the invention will appear more clearly from the following description of a preferred embodiment, wherein reference is made to the attached drawings. In the drawings:

Amend the paragraph at page 8, lines 5-7, as follows:

Fig. 1 is a schematic view of a high-temperature, superconducting cable according to the invention, with portions cut away for viewing clarity;

Amend the paragraph at page 8, lines 8-10, as follows:

Fig. 2 is a cross-sectional, schematic view of a high-temperature, superconducting tape with a metal strip, band, or laminate utilised in the cable of Fig. 1;

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Page 8, line 11, add the following paragraphs prior to the start of the paragraph beginning

“With reference to Figure 1, 1 indicates a one-phase superconducting cable 1 . . . .”

--Fig. 3 is a cross-sectional, schematic view of a high-temperature, superconducting tape with two metal strips, bands, laminates, or combinations thereof, utilised in the cable of Fig. 1;

Fig. 4a is a perspective view of a tubular support with one type of smooth structure;

Fig. 4b is a perspective view of a tubular support with one type of corrugated structure;

Fig. 4c is a perspective view of a tubular support with one type of spirally-wound structure, shown partially unwound; and

Fig. 4d is a perspective view of a tubular support with one type of tile structure, shown partially unwound.--

Amend the paragraph at page 10, lines 6-15, as follows:

In addition to the described elements, cable traction elements may also be present, axially or peripherally located based on the construction and use requirements of the same, to ensure limitation of mechanical stresses applied to superconducting elements 3. Such traction elements, not shown, may be constituted, according to techniques known in the art, by peripherally-placed metal armours, for instance, by roped steel wires, or by one or more axial metal cords, or by armouring fibers of dielectric material, for instance, aramid fibers.

Amend the paragraph at page 11, line 21, as follows:

$18.5 \times 10^{-6} \text{ }^{\circ}\text{C}$

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Amend the paragraph at page 11, line 23, as follows:

$80 \times 10^{-6} \text{ }^{\circ}\text{C}$

Amend the paragraph at page 12, line 1, as follows:

$15 \times 10^{-6} \text{ }^{\circ}\text{C}$

Amend the paragraph at page 12, lines 13-27, as follows:

The tables show the feasibility of both a conventional superconducting tape, with a maximum bearable tensile deformation equal to 3‰, and a superconducting tape according to the invention (provided with two strips 25 located along sides 26 of the section, having a thickness of 0.045 mm and a length of 3.8 mm, made of stainless steel, and bonded to covering 24 of the strip by tin brazing), with a maximum bearable tensile deformation equal to 5.5‰ (a 2.5‰ improvement). In the latter case, the minimum increase value of tensile deformation resistance necessary to ensure feasibility has been indicated, assuming (as indicated above and practically verified) that the superconducting non-reinforced tape can bear a 3‰ tensile deformation.

Double-underlined values indicate that the 3‰ limit has been exceeded.

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